Promoting Productivity and Social Protection in the Urban Informal Sector

The Interdepartmental Project on the Urban Informal Sector

Dar es Salaam
Occupational Safety and Health
in the Informal Sector
(Report on Intervention Strategies)

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WORKING PAPER

Dar es Salaam Occupational Safety and Health in the Informal Sector (Report on Intervention Strategies)

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Preface

The dilemma of the informal sector

The Interdepartmental Project on the Urban Informal Sector carried out research and experimental projects in 1994/95 to demonstrate how to improve the quality of employment, particularly, productivity, social protection and occupational safety and health through enhanced access to resources and markets, collective action and regulatory reforms. Since this requires broad policy packages, it was designed as an integrated multidisciplinary project with many components that need intense ILO interdepartmental cooperation in its implementation.

The conception of the idea of the project dates back to the 78th Session (1991) of the International Labour Conference at which the central theme of discussion was the Director-General's report on "The Dilemma of the Informal Sector". The dilemma, as explained in the report, was whether to promote the informal sector as a provider of employment and incomes; or to seek to extend regulations and social protection to it and thereby possibly reduce its capacity to provide jobs and incomes for an expanding labour force.

Although it is recognized that the full range of existing laws, regulations and labour legislation cannot be immediately applied in the informal sector without reducing its capacity to create jobs and/or drive it further underground, this project was conceived on the assumption that it is not necessary to make a choice between the above two objectives and that productivity and social protection could be mutually reinforcing. Its activities were meant to show how the two objectives might be reconciled and pursued simultaneously to improve the quality of employment.

The project was implemented experimentally in Bogota, Dar es Salaam and Manila. It was believed that a successful implementation would generate enough interest to facilitate replication in other countries by governments and other agencies. The criteria for selecting the cities were:

- Strong commitment of central government, municipal authorities and employers' and workers' organizations to the pursuit of the objectives of the project;
- A certain degree of organization among informal sector operators;
- Ongoing, related ILO technical assistance and, preferably, ILO institutional presence;
- Availability of basic data and prior knowledge on the informal sector.

This report describes the experiences and lessons learned from an experimental pilot project on occupational safety and health in the informal sector which was implemented in Dar es Salaam. Highlights of its recommendations are that provision of occupational safety

health services should be through existing health care delivery systems. Experience gained by the project underscores the need for strong commitment of self-help associations to establish self-regulatory systems to achieve improvements in occupational safety and health.

George Aryee,
Manager,
Interdepartmental Project on
the Urban Informal Sector,
May 1996.

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Executive summary

Like many other third world countries, Tanzania is experiencing social economic decline which has consequently brought about the expansion of private entrepreneurship particularly in small-scale enterprises. The operators of these small-scale enterprises produce goods and services for the majority of the urban dwellers. Quite often, the small businesses are operated by individuals or a small number of people who work as members of the same family. The businesses may operate singly or organized in groups as cooperatives or associations. Limited capital base, low production, low and irregular income coupled with diminished social services from the urban local authorities, have greatly marginalized the operators' working conditions and working environment in these micro-enterprises. Structural adjustment programmes adopted by most poor countries as a conditionality for poverty alleviation assistance programmes from IMF and World Bank is forcing a large number of people from formal to informal employment to work as artisans, food vendors and retail market operators.

The ILO through its Interdepartmental Programme on the Informal Sector (IS) studied the occupational health and safety (OHS) and working conditions of the IS in three selected cities from third world countries (Bogota, Colombia; Manila, Philippines; and Dar es Salaam, Tanzania). In Tanzania 11 informal sector clusters in two districts in Dar es Salaam city were included in the study. The prevalent OHS problems found in the clusters included exposure to occupational hazards, poor welfare facilities, lack of occupational health services, unsuitable workstations, poor work premises and work organization, lack of personal protective equipment, use of unsafe equipment/tools; as well as lack of communication channels with the authorities including individual or group advocacy for the improvement of their working conditions.

Short-term pilot intervention programmes were initiated to improve working conditions and to provide occupational health services to the clusters. Cluster operators were trained in first aid, and health care workers from the Health Department of the City Council were trained in occupational health to undertake health promotion activities in the clusters. Safety and health committees were created and their members were trained in basic OHS. The City Council resumed sanitary services in the clusters. Other inputs included provision of first aid kits and drinking-water facilities. These services greatly improved the OHS situation in the clusters and through this achievement, follow-up activities have been recommended for further provision of training in first aid and basic OHS to cluster operators and also to provide occupational health training to health care workers so that they can provide occupational health services to the clusters.

1. Introduction

The informal sector in Tanzania makes a considerable contribution to economic growth, about 70% of the total labour force in Tanzania is engaged in the informal sector. For many families, the sector is a major source of employment and the only alternative for survival. The economic crisis which Tanzania is experiencing since the 1970s has resulted into the expansion of the Informal Sector (IS) characterized by the declining of welfare services and worsening of employment opportunities.

Rapid population growth (average 3.6 % annually in many African countries), creates restriction of job opportunities for those within the age category of 15 to 64 years. Child labour is on the increase as well. This expansion of employment demand constitutes one of the major causes of the expansion of the IS in Tanzania. The employment situation is even more precarious with the current structural adjustment programmes which entails reduced government expenditure on recurrent and investment programmes. Massive retrenchment in government institutions and privatization of public enterprises has led to a stagnation on public sector employment. Faced with this dilemma, labour absorption in the IS offers the best opportunity for any gainful employment particularly among the youth. The sector is therefore becoming the realm of employment for the majority of urban dwellers who apply their energies in skilled and semi-skilled jobs. Women and children are mostly found in the unskilled manual employment.

Occupational accidents and diseases continue to constitute a major cause of human and material losses which burden national economies' productivity in all developing and newly-industrialized countries. Occupational diseases are likely to became more prevalent due to the increasing use of manmade and mineral fibres. Repetitive working movements, and the organization of work without taking into account ergonomic considerations cause unnecessary strain on the workers, contributing toward fatigue and injuries especially in the informal sector. Due to the high pace of production based on pressing demand and to poor organization of work, unavailability of tools and facilities for lifting and transport of materials, physical workload may reach unacceptable levels. Poor working environment, including inadequate premises and often very unsatisfactory welfare facilities; as well as practically non-existing occupational health services impair the health, general well-being and the quality of life of individual workers and their families. Thus, improved working conditions in the informal sector will constitute an important element in the overall socio-economic development.

Substantial efforts are necessary to develop this sector because if not supported adequately, social upheavals and instability will result from its delicate balance. However, the problem could be faced by raising awareness of the clusters' operators on occupational safety and health issues and seeking institutional support for the provision of occupational health and preventive services to them. There is a need for a national policy and concerted institutional support to develop a framework for sustainable development of OSH in the urban informal sector. Given the size of the labour force, the diversity of operations and various social demographic characteristics of the IS operators, it is necessary to have adequate background information the sector particularly occupational safety and health (OSH) hazards. The purpose of the pilot project was therefore, to identify the nucleus on which different efforts will be

built-upon in order to develop human resources for the improvement of working conditions and the extension of occupational health services (OH services) to workers in the urban informal sector.

Characterization of the informal sector

The informal sector provides for goods and services to meet the gap left out by the traditional institutions which were previously formal. Small businesses and micro-enterprises predominate in the informal sector. Usually the informal sector businesses start with very low capital with no right to land and with little or no skills in the trades they perform.

The following are the common features of the sector:-

1. the majority of informal sector workforce is formed of individuals self-employed in micro-enterprises. Family members are often found working together.
2. The sector's development is based on limited capital whereby the family usually owns the means of production. The main source of capital comes from self-financing. Equipment and tools are often of poor quality and inadequate.
3. Apprenticeship constitutes the major source of acquiring skills and knowledge. Generally, the educational background of the operators is very low (primary education or less, some of them are illiterate and/or only speak the local language). Therefore, the production of goods and services is of low quality due to lack of expertise and frequent turn over of the workforce from one type of operation/trade to another.
4. Most of these micro-enterprises operate on open land with no right of ownership. Thus, municipal regulatory standards are not applicable to them.

Most of these enterprises are organized in clusters located in different parts of Dar es Salaam City [1]. They perform a variety of operations including metal works, woodcarving, painting, food vending, stone crushing, wholesale and retail sale of market products, and cargo handling. Women are predominantly found in food vending and stone crushing operations while men are mostly engaged in metalwork, carpentry, carving and art work. Children are frequently found in the workplace accompanying their mothers, mostly among catering and stone crushing operators. Young workers represent a large part of the labour force in the informal sector particularly those out of school.

Few of these small-scale groups work as an organization (association or cooperative). Even when organized as associations or cooperatives they work individually for their earnings and have limited financial resources and organization capacity to meet optimal income generation and investing capital. The diversity of the micro-enterprises depends on the availability of market for goods and services and is a dynamic phenomena. Entry into the sector more frequently rely on the availability of gainful employment.

[1] Dar es Salaam is not the capital, but the biggest city in the country. Its population estimate for 1995 was 2.5 million people.

Choice of clusters and methodology of the study

A total of eleven informal sector clusters in two districts from Dar es Salaam City were sampled and studied (the target groups involved in testing the pilot strategies were chosen among the clusters already selected and studied by Lwoga, Wenga & Schultz, 1994). The clusters included; Buguruni Carpenters Co-operative Society, DASICO, Mwenge Arts and Crafts Village, Tingatinga Painters, Tandale Vegetable Co-operative Society (Tandale Market, Tandale Porters), Mwananyamala Market, VUSHA (Fishing & marketing) and Magogoni Ferry Restaurants ("Mama Ntilie"), Juhudi Akina Mama and Suma.

The micro enterprises studied include:-

- basic metal work including metal products fabrication;
- timber and wood work;
- tailoring and shoe making;
- market products retail business;
- mechanical and electrical workshops;
- arts and crafts, including traditional carving, basket and carpet-making;
- cooking and vending food, including fruits and vegetables selling;
- flour milling;
- vegetable growing;
- yarn dyeing;
- repair of plastic containers;
- fishing, fish processing and selling;
- used tire engraving and selling;
- stone crushing.

In the eleven clusters the following methodological instruments were used: worksite visits, review of previous information on their activities, interview with leaders and members, assessment of relevant institutions and other resource persons, on-the-spot guidance, application of an attitude and practice questionnaire and walk-through surveys with a rapid assessment through an inspection checklist to identify the nature and extent of occupational health and safety hazards.

The problem areas prevailing in the clusters which needed occupational and safety measures were identified. The problem areas included: inadequate welfare facilities, lack of occupational health care services, poor workstation design, housekeeping and material storage; inadequate and unsafe use of working equipment and tools, personal protective devices and work organization.

Based on the findings of the study a number of specific strategies were tested during a pilot project of three months at the end of 1995. The information obtained in the preliminary surveys was used also for the development of the training materials. The strategies are discussed below and involved the following:

* Setting up the safety and health committees in the clusters;

* Training in Basic Occupational Health and Safety;
* Provision/display of equipments (hygienic drinking water containers, gloves, dust masks, ear plugs/muffs, boots polytene paper for food handling, plastic table cover, etc;
* Opening communication channels between the clusters and relevant institutions;
* "On-the-Spot Guidance" of operators in their routine work schedule.

However, for the accomplishment of sustainable improvements of the working conditions in the above-mentioned clusters, emphasis was placed in involving the clusters operators in the action programmes.

2. Occupational health and safety in the informal sector (pilot survey results)

Broad Objective:

The main objective of the study was to examine the feasibility and possible impacts of strategies already identified by INTERDEP and by SEC HYG for the provision of Occupational Health and Safety in the Informal Sector. In particular to identify adequate means including channels and structure for the implementation of:-

(a) Basic occupational health and safety and welfare facilities at worksites;
(b) Occupational Health Services to the operators of the sector.

Methodology

Information and data gathering

Information about Occupational Safety and Health in the Informal Sector was obtained from a variety of sources including ILO Area Office, Dar es Salaam, Small Scale Industrial Development Organization (SIDO), Dares Salaam City Council, Tanzania Occupational Health Services (TOHS), Dar es Salaam Urban Health Project (UHP), Ministry of Health - Section of Occupational Health; Organization of Tanzania Trade Unions (OTTU), The Sustainable Dar es Salaam Project (SDP) funded by UNDP and Habitat, Factories Inspectorate Ministry of Labour and Youth Development, Ministry of Industries and Trade, Planning Commission, Presidents Office and the Muhimbili Medical Centre.

A walk-through survey

A walk-through survey of the clusters was conducted using a checklist, (see Table II).

Knowledge/attitude/practice questionnaire

A knowledge/attitude/practice questionnaire on occupational health and safety was developed. This was based on the conditions found out during the walk-through survey. This questionnaire was pre-tested for appropriateness and administered randomly to 10 operators in each clusters by the consultants.

Interview with resource persons

After the administration of the knowledge/attitude/practice questionnaire, interviews were conducted to selected persons in the clusters to verify information obtained from 3.1. Among the information asked was:-

(a) Most pressing needs including those which affected their productivity and health.

(b) Improvements considered necessary in their workplace in order to improve their health and safety including personnel protective equipment.

(c) Available social services at site including first aid, water supply, washing facilities, toilets, waste collection and disposal, available sources of food and emergency measures in case of injury or diseases.

(d) The use of health services including the national health care system, traditional healers, self-prescription through drug-stores and occupational health services.

Every effort was made to choose resource persons from the leadership of the clusters and interviews were conducted individually. The most consensual of opinions for the questions asked were noted down.

Tables I and II shows the results of the fact-finding surveys carried out in the clusters. Table V shows the results of the questionnaire.

Pilot survey results

The following are common features which were identified as contributing factors to the precarious working conditions and occupational hazards in the informal sector:

(a) Land allocation. Most of these small business operate in open land or locations not legally recognized for the purpose. Therefore, they cannot have access to facilities such as sanitary accommodation, permanent and suitable working sheds. As they do not own the land, they cannot install water or electricity as these services are provided only to lawful owners of land.

(b) Lack of occupational health and safety and environmental regulations and access to the social security system to provide for their protection.

(c) Lack of availability of occupational health measures to cater for this disadvantaged part of the community. There are no health services specifically targeted to this group in whole or in part.

(d) Low level of education with inadequate skills (table I) and resources to improve their working condition and working environment. Because of the limited capital on which they operate and low productivity, their income is only sufficient for basic subsistence.

(e) Lack of clear employer/employee relationship in these micro-enterprises. Because of this deficiency, operators are not organized nor obliged to follow on trade union rules or on regulations in relation to employment conditions.

(f) Lack of institutional support. The City Council has ceased to provide services to informal sector clusters due to lack of resources.

Based on the preliminary assessment of the working conditions in the clusters specific problems were identified (Riwa & Swai, 1995).

The following health complaints were common to operators:-

(a) Respiratory illnesses;
(b) Backpain;
(c) Joint and muscle pain;
(d) Headaches;
(e) Hernia;
(f) Fungal infection of feet and hands.

The complaints were associated with the following working conditions :-

(a) Dust and solvents exposure;
(b) Strenuous work;
(c) Improper work posture and poor seats;
(d) Long working hours with physical or mental stress;
(e) Heavy lifting of loads including inadequate lifting postures
(f) Wet work and working on damp surfaces without shoes.

The occupational health and safety hazards faced by clusters' operators were identified with a walk-through survey using a checklist, they were mainly due to:-

1. Lack of adequate welfare facilities in the clusters.

2. Lack of occupational health services including health promotion programmes for the operators.

3. Unsuitable work station design and poor work organization. Poor housekeeping and material storage.

4. Lack of personal protective equipment.

5. Inappropriate working equipment and tools.

6. Unsuitable structures and work premises and poor waste disposal and sanitation.

7. Poor channels of communication with relevant institutions including lack of advocacy.

1. Lack of adequate welfare facilities, such as toilets, water supply for washing and drinking water, first aid services, bathrooms, and eating facilities.

From the variety of problems in the clusters studied, lack of appropriate welfare facilities at the workplaces seem to be affecting most operators. This problem though most serious was attributed by the clusters' operators to non-availability of land, inadequate institutional support from service providers (e.g. City Council) and lack of resources, skills and social organization to improve their welfare through self-help.

Water Supply: Water supply to the premises is normally done by the operators, but flow of water is quite intermittent. There are few water-fetching points in large clusters (e.g. markets and open air restaurants).

Toilets and washing Facilities: Even where water supply is available, connection to toilets is not done and washing and bathing in the clusters are difficult. Most of the toilets are pit-latrine type and often are full and overflowing. Cesspit emptying is done erratically by the City Council which makes the toilets unusable, almost on permanent basis, forcing operators and customers to use toilets in the nearby restaurants and private houses. Some people use the seashore or furrows and gullies for similar purpose. Drinking Water: Drinking water sometimes is drawn from taps when water supply exists, but very often operators and customers have to buy drinking water from vendors who move around the cluster with water buckets and cups.

Sources of Food: Operators normally eat food at work prepared and served by women from open- air restaurant (street food vendors), who operate alongside the clusters. The preparation of food and the way it is served does not complies with minimum hygienic standards.

2. Lack of occupational health services including treatment of occupational illnesses, and injuries; promotive and preventive health programmes in the clusters.

There is no national occupational health policy to face the health problems of the informal sector's operators. Even though health care in the country is currently free of charge up to the district level, there are no primary health care programmes aimed specifically at improving health and welfare of workers in the informal sector other than those aimed at the general population. The City Council role to provide social services to the community has been jeopardized further by budgetary cuts in social expenditure.

The City Council Health Department (CCHD) under the Ministry of Health has insufficient human and financial resources in order to accomplish adequately its role of administration all public health care centres within its boundaries. A comprehensive policy for health protection of the IS operators is lacking and as an alternative, a cost-sharing exercise in Tanzania from a district hospital to consultant hospitals is now in operation. As the OH units in the Ministries of Health and Youth Development are understaffed and have insufficient resources the informal sector has not access to out reach programmes. There are two private groups dealing with occupational health services covering the medium and large industries, one of them in Dar es Salaam (Tanzania Occupational Health Service).

However, their fees are as high as any big private hospital in the city and they would not be affordable to informal sector operators.

Furthermore, there is a complete absence of occupational health care for operators of the urban informal sector. There is no organizational or referral system designed to deal with the occupational health of workers in the informal sector (occupational and work-related diseases and injuries).

The Factories Inspectorate, under the Labour Department in the Ministry of Labour and Youth Development, is responsible for enforcing the law and for the supervision of the working conditions at workplaces. There are 26 Factory Inspectors (13 in Dar es Salaam) and 14.500 registered factories. Due to the limited number of available inspectors there is a great difference in the number of the required inspections and the actual inspections done yearly.

The Labour Ministry due to the growth of employment in the informal sector is interested in the social protection of the operators as well. However, there are a number of limitations. Even though some workplaces within the informal sector could be covered under existing regulations because of the nature of their activities, it is difficult to extend the coverage to them because of the limited number of available inspectors in relation to the number of factories already registered and thus needing statutory inspection. Furthermore, many of the workplaces in the informal sector are not registered nor located in planned land and as such, the factories inspectorate cannot regulate their activities.As the Occupational Health Units in both the Ministries of Health and Labour and Youth Development, are understaffed and have insufficient resources, the informal sector has not been served even by outreach programmes.

Informal Sector operators are not excluded from the national health services. However, because of their working conditions and environment, they should have special health care services (e.g.: fist aid, occupational health services, health promotion activities, consumer health protection services, etc).

The Survey results showed that there is absolutely no first aid services nor occupational health care (including health promotion) activities in the 11 clusters visited. The most common health facilities used ares the municipal dispensaries and hospitals. Private dispensaries and hospitals despite providing better services are only used by few operators because of the high costs. These private facilities are many and very close to these clusters and their residences. Traditional healers also do provide services to few of the operators in nearly all the clusters. Table IV indicates the health services used by the sector.

3. Unsuitable workstations, poor work organization and housekeeping

Most of the small business units had very poor workstations, which can well be associated with some of the health complaints of the operators, such as fatigue, back pain and frequent injuries. Poor work organization including long working hours (over 12 hours without weekend rest) without the required rest periods and work pauses, inadequate workstation, as well as poor work organization contribute significantly to higher energy expenditure and low productivity. The resulting low-income, uncertainty of finishing certain tasks according to schedule and unreliable market for goods and services creates a high degree of stress. It was frequent to see sick operators lying on the ground or on benches at

the workplace, who have not gone for treatment because they cannot afford time off to go to a dispensary, which is often quite far, a kilometre or so away from the workplace. The high degree of labour turnover and absenteeism results in sickness, injury, fatigue and low-income. Table III shows some of the most common health complaints.

4. Lack of personal protective equipment (PPE)

Almost all the operators do not use personal protective equipment to undertake their tasks. The reasons seem to be affordability, lack of awareness, risk-behaviour, non-availability of the equipment in the local market and non-existent health and safety regulations and programmes in the clusters.

As most of the operators are not aware of the risks they face, they would not wear personal protective equipment for any dangerous operations to avoid exposure (e.g. against noise, dust, sharp-cutting metals, irritating or poisonous fumes and gases, in welding operations, etc.), although they may change their health behaviour towards work through continued health promotion at the clusters and access to PPE at available prices.

5. Use of unsafe equipment, tools and unsafe work procedures

Many tools and equipment used in the informal sector are unsafe to work with (no built-in safety features) and strenuous to handle. As most clusters are not connected to electricity supply, operators use manual equipment. Those connected to power supply use such equipment without guarding, as they cannot afford the better ones.

Due to unguarded machines and unsuitable work tools, accidents frequently occur. Labour turn-over is frequent and with new, unskilled operators in the sector, it would also be expected that accidents occur due to inexperience, rapid work pace and fatigue. The application of practical improvements through basic ergonomic principles has a crucial role to play in making the tools and equipment safe to work with.

6. Unsuitable work premises

Most of the operators do not have proper shelters to work in. Where available the shelters are temporary in nature. The roof may be made of corrugated iron sheets or plastic materials. The walls may be made up of waste timber, plywood or waste iron sheeting. Often there are no walls because the place is too hot. In most cases, the floors are not paved and are frequently wet or dusty depending on the outside weather conditions. These premises are divided into small cubicles by pieces of timber for each individual operator. This distribution of space obstruct the workplace and makes operations difficult. Because of the temporary nature of the workplaces and the presence of too many operators in relatively small work premises, there is no space for restrooms, sanitary facilities, eating areas, cupboards or cabinets.

A typical work premise would be a hot, dark, dusty, congested and noisy enclosure, where different operators undertake their tasks with no regard to health and safety of themselves or others in the premise. Thus, it is frequent to find a worker undertaking unshielded welding operations adjacent to another engaged in a blacksmith process in the same cubicle.

7. Poor channels of communication with relevant institutions, including lack of advocacy

Most of the operators were demoralized by any effort to get the City Council to provide essential services to the clusters (e.g. waste collection, water supply or cesspit emptying). Verbal communication was almost the only channel that has been traditionally established. Written letters for service or court orders were unheard. The role of the organization to defend members' interests in the policy processes at the level of the division, district and ultimately at the level of the City Council was hampered because of lack of a clear and rational policy on the informal sector of the City Council.

These self-help organizations have very limited capacity to provide for social services to its members. Few could afford medical expense reimbursement for its members (e.g. Social Security Scheme), and no one could afford to provide formal skill development for their new operators.

Table I: Operators' characteristics [1, 2]

CLUSTER	OPERATION	Number of operators (Members)		Average education	Average dependant	Skill acquired
		Male	Female			
Buguruni	Carpentry	42	1*	Primary	6	Apprentice
DASICO	Wood and metalworks	850	6*	Primary	8	"
Juhudi	Stone crushing	0	38	Primary	6	"
Ferry Restaurant	Food	36	173	Primary	7	"
Mwananyamala	Market	364	40	Primary	6	"
Mwenge	Carvings and carpentry	2000	200	Primary	5	"
Suma	Ornamented knives production	36	0	Primary	3	"
Tandale Market	Wholesale and retail	500	1*	Primary	7	"
Tandale Porters	Loading/off-loading cargo	220	1*	Primary	5	"
Tingatinga	Painting art works	65	1*	Primary	5	"
Vusha	Fishermen and fish business	63	3*	Primary	6	"

* Office-workers

[1] Source: Field survey, Riwa and Swai, 1995.

[2] *Note*: For DASICO and Tandale Market, the number of operators may be far above the one indicated in the table since only associate members are reported here. There are other people working in the clusters who are not members of the association.

The table below shows the findings of the walk-through surveys during the first study carried out in the clusters in August 1995.

Table II: Distribution of health hazards by problem area among the 11 clusters surveyed [1] [2]

PROBLEM AREAS	VUSHA	Magogoni Ferry Womenrest	Mwana nyamala	Tandale Market	Tandale Porters	Tinga tinga Painters	Mwenge	Juhudi	Buguruni carp.	Suma	DASICO	TOTAL
Housekeeping and Storage	2	2	2	2	0	1	2	0	2	1	2	16
Waste Disposal	2	2	2	2	0	1	2	0	1	2	2	16
Avoidance of Hazardous Object	1	0	1	0	1	0	1	1	2	2	2	11
Machine Guards	0	0	0	0	0	0	0	0	1	0	2	3
Electric Safety	0	0	0	0	0	0	0	0	1	0	2	3
Lighting	1	1	1	1	1	0	2	0	1	0	1	9
Noise	0	0	0	0	0	0	0	0	2	0	2	4
Presence of Hazardous substances	0	1	0	0	1	2	2	2	1	0	2	11
Work premises	1	2	1	1	0	1	1	0	1	1	1	10
Handling of hazardous materials	0	0	0	0	0	2	1	2	1	0	2	8
Protective Equipment	2	1	1	1	1	1	2	2	1	2	2	16
Lifting and Posture	2	2	1	1	2	2	1	2	1	2	2	18

[1] Source: field survey, Riwa and Swai, 1995.

[2] The total amount of all grades at the bottom of each cluster indicates the magnitude of the problem based on the criteria established by the consultants.

Key: (1) Hazardous conditions which needed correction.
(2) Hazardous conditions which needed correction as a priority.
(0) Hazards which posed minimal risk or non hazardous conditions.

PROBLEM AREAS	VUSHA	Magogoni Ferry Womenrest	Mwana nyamala	Tandale Market	Tandale Porters	Tinga tinga Painters	Mwenge	Juhudi	Bugururi carp.	Suma	DASICO	TOTAL
Height of working surfaces	1	2	1	1	1	2	2	2	1	2	2	17
Chairs	1	1	1	1	0	2	2	2	1	2	2	15
Hand tools	1	0	0	0	0	0	1	2	1	2	2	9
Intensity and Stress	2	1	1	1	2	1	1	2	1	1	1	14
Communication	0	0	0	0	0	0	0	0	0	0	0	0
Working Time and Rest	1	2	1	1	1	1	1	1	1	0	1	11
Sanitary Facilities	2	2	2	2	2	1	2	1	1	1	1	17
First Aid	2	2	1	1	1	2	2	2	2	2	2	19
Lockers and rest room	1	1	1	1	1	1	1	1	1	1	1	11
Drinking water, meals	2	1	1	1	1	1	1	1	1	1	1	12
Health Programme	2	2	2	2	2	2	2	2	2	2	2	22
Safety and Health Education	2	2	2	2	2	2	2	2	2	2	2	22
Total	28	26	22	21	19	25	30	27	29	26	39	

Source: field survey, Riwa and Swai, 1995.

The total amount of all grades at the bottom of each cluster indicates the magnitude of the problem based on the criteria established by the consultants.

Key: (1) Hazardous conditions which needed correction.
(2) Hazardous conditions which needed correction as a priority.
(0) Hazards which posed minimal risk or non hazardous conditions.

Table III shows some of the most common health complaints.

Table III: Common Health Complaints of Clusters' Operators [1]

CLUSTER	Back pain	BP	SKIN	EYES	Respiratory	Headache	Hernia	Muscle pain
Buguruni	1	0	0	0	2	2	0	2
DASICO	2	0	1	0	2	2	2	2
Juhudi	2	0	0	0	2	1	0	2
Magogoni Ferry	1	0	0	2	2	2	0	0
Mwananyamala	1	0	1	0	1	1	1	1
Mwenge	2	0	1	1	2	2	0	2
Suma	2	0	0	1	2	2	0	2
Tandale Market	1	0	2	0	1	0	1	1
Tandale Porters	2	0	2	1	2	1	2	2
Tingatinga	2	0	0	1	1	1	1	0
Vusha	1	0	0	1	1	0	1	1

Key: 0 - Not experienced
1 - Less common
2 - Very common

[1] Source: field survey, Riwa and Swai, 1995.

The following table indicates the type of existing health services and their use by the operators of this sector.

Table IV: Use of Health Care Services [1]

Cluster	Traditional healers	First aid	Dispensary		Hospital		Occupational health clinics
			Govt.	Private	Govt.	Private	
Buguruni	3	0	3	2	3	2	0
DASICO	1	0	3	2	3	2	0
Juhudi	2	0	3	2	3	2	0
Magogni	3	0	3	2	3	1	0
Mwananyamala	2	0	3	2	3	1	0
Mwenge	1	0	1	3	1	3	0
Suma	2	0	1	3	3	2	0
Tandale Market	2	0	3	1	3	1	0
Tandale Porters	0	0	3	1	3	3	0
Tingatinga	1	0	1	3	3	3	0
Vusha	3	0	3	1	3	2	0

Key: 0 = Do not use it
1 = Very few use it
2 = Few use it
3 = Many use it.

[1] Source: Field survey, Riwa and Swai, 1995.

Table V

Distribution of training sessions of the informal sector operators by specific trades

Sr. No.	Session	CLUSTER	TRADE	No. of participants	No. of half days
1.	I	DASICO	Wood & metal works	12	3
2.		BUGURUNI	Wood works	6	
3.	II	MWENGE	Carvers	12	3
4.		TINGATINGA	Art painters	6	
5.	III	MWANANYA MALA	Marketing	6	3
6.		TANDALE MKT	Marketing	6	
7.	IV	TANDALE PORTERS	Food vending	6	3
8.	V	VUSHA	Fishing & marketing	6	3
9.	VI	FERRY RESTAU-RANTS	Porters	6	3
	TOTAL			66	18

3. Short-term intervention strategies on occupational health and safety in the informal sector clusters

Based on the findings of the survey, a pilot project was carried out in Dar es Salaam from October 1995 to January 1996 involving the 11 Informal Sector clusters studied. The pilot project aimed at providing on-the-spot guidance to the clusters' operators to improve their working conditions and environment and to promote the extension of occupational health through established access to health care, initiating health promotion activities in the clusters in collaboration with the City Council Health Department.

Safety and health committees were established in the eleven clusters. The committee in each cluster became a focal point and advisor of the cluster members on issues related to safety and health. The number of members of each safety and health committee was set taking into consideration the number of operators in each cluster. In DASICO and Mwenge Arts and Crafts Village there are 12 members of the Safety and Health committee respectively. The rest of the clusters have 6.

Having setting up the SHCM, it was necessary to develop their ability to recognize and control the occupational hazards prevailing in the clusters. Therefore, basic training and on-the-spot guidance on how to carry an inspection of their workplaces with a checklist, were provided through the adaptation of the ILO's WISE methodology (Higher productivity and a better place to work). A member of each cluster was trained on first aid.

The project started the organization of the clusters and the opening of lines of communication with services' providers through:

(a) Training a selected group of operators from the clusters on first aid who will provide first aid in each cluster;
(b) Training of health care providers/promoters on occupational health and extension of the services to the clusters including health promotion activities;
(c) Creating health and safety committees in each cluster, training their members and other operators on safe work practices.

The long-term strategies included continuation of direct guidance/training and improvement of the existing infrastructure and health care services with the involvement and collaboration of those institutions already identified as major contributors to the improvement of the working condition and environment in the informal sector.

The strategies implemented involved the following activities:-

1. Mobilization of clusters to train operators on first aid.
2. Mobilization of the City Council Health Department to provide health care workers with training on occupational health.
3. Recruiting trainers for first aid course and occupational health course.
4. Training of operators from 11 clusters on first aid.
5. Training of 28 city council health care workers from nearby health care facilities on the extension of occupational health services.

6. Mobilizing the trained health care workers to visit the clusters and initiate health promotion activities including enhancing first aid services in the clusters.
7. Organizing the 11 clusters to establish Safety and Health Committees (SHC) and appoint committee members to undergo a training course on OSH.
8. Identifying the trainers and preparing training materials (in local language) for a three-day course for each trade on basic OSH (on-the-job training) for Safety and Health Committee members from the clusters.
9. Assigning duties and responsibilities to the health and safety committee members and support them in the implementation of low-cost improvements identified during the training course.
10. Organizing clusters to have safe drinking water points.
11. Organizing clusters to have hygienic sanitary facilities.
12. Organizing the City Council Health Department and the clusters to increase efficiency in waste collection.
13. Promoting operators skills and knowledge through "on-the-spot guidance" on improved working conditions and OSH practices.

Results of the pilot intervention

At the end of the pilot project the following had been achieved:

(a) Eleven informal sector operators from 10 clusters have been trained in first aid and twenty eight health workers (10 nurses, 10 clinical officers and 8 medical officers) in occupational health services.

(b) First Aid Services 9 of the clusters had been established and started. Health care workers have been visiting the clusters to check health of the operators and they have been also giving health education in various occupational health topics.

(c) A total of 61 operators (10 women and 51 men) members of the Safety and Health Committees from 8 trades were trained as shown below:-

* carpenters, welders & motor vehicle mechanics 18
* carvers and painters 19
* market traders 12
* porters in markets 6
* food business (mama ntilie) 6

(d) Some practical improvements have been carried out in 4 clusters. Improvements included e.g.:-

* daily sweeping/cleaning of worksites;
* arrangement of materials;
* wearing of clean clothes/uniforms; and
* daily collection of waste to a central collection point.

(e) Four other clusters have started mobilizing funds for maintaining toilets and one has emptied its cesspit through payment of fees to the city council.

(f) Waste disposal by the city council has improved in one cluster while a private contractor has been hired by another cluster to remove and dispose waste.

(g) City Council sanitary services to the clusters have generally improved particularly because of better communication.

Evaluation of the training
Health care workers

(a) At the end of each healthcare workers' training course, an evaluation was undertaken to get an insight on the participants' feelings about the course content and the logistics that were used. The general consensus from the participants was that the courses were too short. There was a need for one-week lecture in the classroom supplemented with another week of field visits with on-the-spot experiences.

(b) As the City Council has budgetary constraints, the health care workers felt it was rather practical to provide them with transport or allowances to enable them to visit the clusters for health promotional activities. The City Council is willing to furnish, on a continuous basis, medical supplies for the first aid kits which were provided to the clusters under the project.

(c) The occupational health field is relatively new to health care workers. They felt they should have an instruction manual to facilitate their work in the clusters. Such a manual could be made available to each health worker who attends the courses.

(d) First aiders expressed their need to have continuous refresher courses so that their skills are enhanced. They expressed the need to have posters on first aid and emergency care so that other workers are aware of what the first aiders might do in case of emergency. They requested to have an illustrated first aid manual in the national language (Kiswahili).

(e) The City Council has limited budget for the health services and virtually none for OHS. It was seem as reasonable to provide transport and equipment for those involved in the OH & S programmes in the clusters.

(f) Clinical officers seems to be more interested in running health examinations in the clusters than the medical officers. This points out that clinical officers should be involved in running health examinations while nurses and health assistants should concentrate on the health promotion activities in the clusters. Medical officers are very few in the urban health facilities and difficult to make them available for training.

Clusters' operator

(a) The training for the (SHC) included six sessions which were arranged according to the nature of the jobs or trades in their local language. Only 9 of the 11 clusters SHC were trained. One cluster decided not to participate for unknown reasons, the other was in delay to join the activities.

(b) Few operators have adequate primary education to be able to understand the subjects well. The choice as who should attend the first aid course was rather a cumbersome process.

(c) The cost benefit of OH & S intervention in the clusters cannot be seen vividly by all the operators and so their enthusiasm to improve their working conditions and working environment as a means to enhance productivity should be enriched through awareness-raising and skill development.

(d) Because of their small earnings based on daily physical effort, few can leave their worksites for the day. In this case providing them with a small amount of sitting allowance enabled the operators to attend the training sessions outside their clusters.

4. Conclusions and Recommendations

The pilot project provided for an assessment of national capacity for the extension of occupational safety and health to the informal sector. It also allowed to field-test some of the proposed strategies of intervention. The strategies of intervention were based on a model framework for the development of a national programme on OSH for the informal sector (Annex I). However, in order to achieve any success in the implementation of protective and preventive measures for informal sector workers and their families; all those responsible for OSH should be involved with a clear definition of responsibilities and not only the informal sector operators. Therefore, any initiative in this field should be undertaken in the framework of a national policy to support the informal sector and should involve the relevant authorities and social actors. Such a policy should foresee the need to extend occupational health through primary health care services at the same time that improvements are undertaken at the workplaces through awareness raising and training.

Innovative approaches and specific methodological tools need to be developed taking into consideration the informal sector characteristics (number of people, widespread poverty, important vulnerable and under-served working population, etc.). To ensure the sustainability of the measures undertaken, they have to be low-cost and practical for the operators. It would be also necessary to identify the links which should be established between the improvement of the working conditions and environment, the protection of the health of the workers and the generation of employment.

Past experiences have showed that any initiative coming from the outside fails as soon as external resources are finished. Impact assessment should be one of the main components of the programme in order to adapt it to the real needs of the community making it affordable and applicable. It should also be kept in mind that the informal sector escapes from the rigidity of formal economic models, being capable of very flexible responses to changes in its overall pattern of economic activity through indigenous initiatives.

1. Prerequisites for sustainable short-and long-term strategies on OSH for informal sector in Dar es Salaam

Prerequisites for sustainable short-and long-term strategies for OSH for the IS in Dar es Salaam were identified through the pilot study, these include:-

1. To enhance knowledge and skills of the operators involved in the improvement of their working conditions and working environment;
2. Provision of institutional support for services vital for the improvement of the working conditions of the IS clusters including the provision of OH services;

3. Land acquisition and financial empowerment to enable the operators to make improvement of the working conditions and environment in their workplaces; and
4. A clear government policy and/or enabling political will to provide and improve OSH for the IS particularly in the urban areas.

Prerequisites (3) & (4) are part of a long-term strategy. Nevertheless, in short-term planning OSH may contribute to financial empowerment of the sector from increased productivity.

2. Priority areas

The most pressing OSH problems in the IS are to be addressed on short and medium-term programmes. The priority areas are as follows (Riwa & Swai 1995):-

(a) Improvement of welfare facilities particularly drinking water, toilets, washing facilities, eating places, first aid services including training of first aiders.

(b) Provide access to OH services particularly health promotion programmes and periodic health examinations. This should include improving of record-keeping at the district level (e.g. occupational history) and training of health care workers in occupational health services.

(c) Improvement of working postures, work stations and work organization particularly based on low-cost practical local solutions (e.g.: redesigning of work stations, work benches and seats). Work organization should be improved to reduce monotony, fatigue and loss of productivity.

(d) Housekeeping and material storage shall be improved through better materials arrangement and storage; waste collection and disposal and improvement of passages in the workplaces. Behavioral modifications strategies should be employed.

(e) Use of Personal Protective Equipment (PPE). When work process cannot be made safe for the operators by means of engineering controls, use of PPE shall be strongly encouraged by awareness creation. Local production of appropriate low-cost PPE should be encouraged as this initiative will also contribute to employment creation.

(f) Safe use of working equipment and tools. This shall be done by enhancing safe working practices through skill and knowledge enrichment.

(g) Work premises and waste disposal. Existing structures should be improved by e.g enhancing light and ventilation, paving floor, enhancing waste water drainage. Work premises should be enlarged or rearranged to accommodate operators without congestion. Appropriate local waste disposal methods involving low costs shall be encouraged.

3. Priority groups

Artisans who are involved in technical jobs are most likely to be exposed to occupational hazards. Especially women and heavy manual workers suffer from chronic conditions because of the type of work they are normally involved in. These groups should be the priority targets of the development programme.

For clusters that are organized it is easier to integrate and carry out a joint community based programme. Based on peer group behaviours such clusters are much more easily positively encouraged towards prevention.

As seasonal workers tend to keep one job for a short period, it may be difficult to involve them in the programme and have a clear picture on the impact. However, special measures should be designed in order to progressively extend protection to these workers as well.

4. Access to occupational health services

Existing health care services in the communities should be identified, such as: hospital and clinic-based activities, primary health care units, local and district activities undertaken by the authority, voluntary activities, self-help and grass-root level organizations initiatives, etc. In order to create self-sufficient structures capable of facing basic needs and demands of informal sector workers, adequate channels need to be identified and networking arrangements at the community and district levels need to be developed.

Cost-effective practical solutions should be aimed to make better use of existing resources. Innovative channels for providing the most necessary occupational health services to the informal sector needs, including first-aid, basic health care and early detection of workers with occupational health impairments should be implemented. Account should be taken of the needs of special categories of workers, such as women, young workers and child workers.

It may be unrealistic to propose new occupational health infrastructures for the informal sector. However, the channels through which an occupational health practice can be extended to the informal sector could be for example through: extension services, community health programmes, Red Cross or other humanitarian non-governmental organizations, local dispensaries, district health centres, cooperatives and pre-cooperative movements, artisans' organizations, self-help groups, women organizations, etc.

Special ways and means to integrate occupational health action into primary health care programmes and for the development of district-based occupational health dispensaries and centres to support occupational health activities in the informal sector should be promoted, allowing referral to a higher level of health care when necessary. For example, as part of a national strategy to provide occupational health care to the informal sector, the possibility of incorporating an occupational health component to the public health services in local markets, municipal health centres and hospitals should be explored, as well as on training on OSH for qualified staff dealing with curative activities.

In order to consolidate the referral system, specific strategies should be created to establish and strengthen groups of occupational health practitioners and primary health care

staff trained to improve their diagnosis and treatment capabilities at different levels in different fields according to local needs.

Emphasis should also be placed on the creation of employment for occupational safety and health preventers/promoters within the community (clusters). The persons engaged in such activities would be trained at the level of "sanitarians", "extension workers", "bare-foot doctors" or "occupational safety and health educators". A specialized consultation on occupational health could be added as a referral system to local hospitals. Building at the same time the capability of the community health workers (CHW) in the pilot communities to integrate occupational safety and health into their regular activities; taking initial steps to integrate OSH into national CHW and health promoters' curriculum, etc.

For example, selected primary health care centres could appoint an occupational health promoter/preventer/sanitarian who will:

(a) inquire about any relationships between the injuries and ailments of those who come for treatment and their occupation. Special attention should be given to a primary health care centre when they receive the same kind of injury or burn several times; as well as when persons from a given place or with a given occupation come particularly frequently for first-aid assistance in the primary health care centre. Such information could be collected in a standardized form to be used for preventive purposes and for treatment and rehabilitation programmes;

(b) provide information/awareness-raising to those who suffer from an injury or ailment which are suspected to be work-related. Insisting on the preventable character of occupational accident and diseases; accidents do not happen but are caused; they can and should be prevented.

(c) provide information on basic safety appropriate to each case (e.g. pesticide poisoning, burns, falls, turn-over of machinery, cleaning hand with solvents, etc.);

(d) be in-charge of visiting the workplaces where accidents have happened in order to identify hazardous processes, equipment and agents and propose simple and low-cost remedial action to prevent the re-occurrence of similar accidents and of ailments; having a referral system for supervision and support on occupational safety and health when necessary.

In order to provide occupational health care to the informal sector it is essential to keep a close link between occupational health, public health and health care services. The practical approach to occupational safety and health in the informal sector should be start with the organization of the clusters, increasing awareness about OSH among informal sector workers through effective information dissemination on preventive practices and protective measures. Training some key persons on monitoring of the workplace and first-aid. The link between first-aid, primary prevention and traditional medicine should be carefully explored as traditional healers are the first level of contact with "health care" that informal sector workers establish in case of ill-health.

Required support to maintain and improve occupational health services provided to the informal sector should be detected, including an assessment of the quality of the services and the complementary services that the national authorities need to provide.

Figure 1 presents an example of an organizational model for OH services.

5. Improvement of Working Conditions and Environment

Appropriate and simple means of detection and control of occupational health hazards at the workplace level should be proposed. Training needs of micro-enterprises managers and workers should be detected for a) their participation in the identification of risk through the monitoring and regular surveillance of their working environment; and b) for the implementation of low-cost practical solutions for the improvement of their working conditions and health.

The measures proposed for the implementation of changes at the worksite need to be cost-effective and sustainable to allow the capacity-building within the informal sector itself. In order to ensure sustainability, the affordability of the approach and its link to productivity should also be taken into account.

The protection of workers' health should be undertaken through the application of collective measures by modifying the working environment in order to prevent and control occupational hazards. However, personal protective equipment may, in addition be necessary. Nevertheless, it has to be kept in mind that the use of inappropriate equipment may be more harmful than helpful and that the use of more sophisticated personal protective equipment, such as respiratory masks for dusts, should be the last line of defense when no other collective technical measures to avoid or minimize the risk could be implemented.

Consideration should be given to the possibility of using the skills within the informal sector to produce personal protective equipment adapted to local conditions, (e.g.: example, working clothes, protective shoes or gloves, helmets, dust masks, etc). Arrangements could be made through technical cooperation projects, with certain companies in industrialized countries to wave some patents and encourage local production of personal protective equipment by the informal sector at a low-cost with an appropriate level of quality, on the understanding that this will be done for local use. This type of initiative will also contribute to employment-creation which should be one of their aims of any activity in the informal sector.

Figure 2 shows a model of a referral system for safety and health committees; in order to allow the system to operate, feedback mechanisms need to be in place.

6. Information and training in the informal sector

Information and training should be provided to the informal sector through non-formal education programmes, In order to reach the people where they live and work and to

respond to their basic needs, such programmes should be action oriented. It is necessary to define the characteristics and needs at local level (worksite, cluster, community, etc.) to create a flexible and dynamic programme of non-formal education. It must be kept in mind that there will be different levels of beneficiaries and, therefore, different levels of information and training.

To guarantee capacity-building, implemented measures should be affordable and applicable. The involvement of NGOs and self-help groups in any type of initiative from the beginning, has demonstrated to be cost-effective and sustainable. The training should promote personal and community development. Therefore:-

(a) the training methods should be based on assuring the active participation of those who will be trained and the resource persons must be appropriately trained to avoid the limitations of traditional methods of teaching (such as in primary school);

(b) the programmes should be oriented to different target groups (women, young children, adults with low-level of literacy, etc); widely applicable training modules on OSH as well as specific sub-modules for each trade/process should be designed.

(c) the training staff should come from the same cultural origin or from the community itself so as to allow affinity, respect to traditional values and to avoid provoking feelings of cultural alienation;

In a non-formal training programme the subject matter should be appropriate to the level of literacy and local language of the target group (e.g.: Kiswahili). The simplest possible vocabulary and terminology on occupational safety and health which is compatible with mastery of essential knowledge or skills should be used. Alternative or combined methods for adult/children education and a modular programme structure need to be foreseen to be flexible with the sector needs.

The training methodology should be suitable to the environment of the target group. Concentration on issues arising from the workplace and practical instruction should be linked to productive work. In many cases, it will be necessary to incorporate as part of the training the acquisition of language and mathematical skills, consolidating literacy as well as other topics relevant for the group.

To take advantage of traditional technologies and traditional methods of training, as for example, through the involvement of local groups of artisans in organizing and instructing apprenticeships would guarantee credibility and the suitability of training.

In order to improve the training methodology and to adapt it to the real needs and expectations of the community an evaluation of the outcome through built-in assessment procedures and emphasis of self-assessment should be done. Follow-up activities should be integrated in the training programme to pursue sustainability.

Sophisticated equipment does not automatically increase the effectiveness of instruction. The production of low-cost training material should be encouraged. Audio-visual techniques may be of a very simple nature, using objects available in the environment (e.g.: drawings, models, photographs clipped from magazines or newspapers, a sewing machine or a handtool, a camera to take photographs of the workplace could be used as teaching resources). On-the-spot demonstrations should be given to the trainees to

contribute to their practical experience. Follow up of training activities should be carried out concurrently in the clusters during the health and safety intervention programmes.

The local production of posters, newspapers and pamphlets on occupational safety and health largely illustrated, such as "comics" distributed at no cost to worksites, to children at schools, in dispensaries or in public markets, should be explored. The objective will be both to develop occupational safety and health awareness and to create new jobs in this field rather than to use external and costly expertise. Such publications could cover the field of both occupational and environmental health.

To avoid the limitations of traditional education, in non-formal education, the techniques of distance education (including radio and TV) could be advantageous for awareness-raising. However, its effectiveness will be determined by the guidance of especially trained instructors and advisers. Training programmes should be systematically prepared in order to be consistent and sustainable. They must have very clear, specific and limited aims and be capable of being fully explained, applied in self-evaluation and replicated.

The sensitization of policy-makers, City Council officials and labour inspection services on the importance of local institutional support for the improvement of working conditions, and for the provision of occupational health care in the informal sector, should be undertaken at district and local levels, through awareness-raising and promotional activities. The initiative could be institutionalized if it is adapted to enhance existing national structure in urban areas throughout the country in order to modify attitudes and prejudices against the sector. The purpose would be to change the traditional role of labour inspection services towards a preventive and promotional approach to provide information, advice and training.

7. Training of inspection staff

To enhance changes in the inspection approaches and to allow maximum participation of the IS operators in the improvement of their workplaces. The inspecting staff from both city and municipal authorities (health officers - HO) and from the factories inspectorate of the Ministry of Labour and Youth Development (factories inspectors - FI) have to undergo a training on inspecting approaches to the IS clusters. The budget of inspecting institutions is gradually diminishing which results in less efficiency in their operations. There is a need, therefore, to create a different approach towards inspection from an enforcement to an advisory role, to allow IS operators to feel free to cooperate with inspectors and at the same time feel responsible for the improvements. The trained inspectors should be expected to be trainers during the training of the SHC members and to participate in continuous exercise of on-the-spot guidance in their respective local areas of responsibility.

8. Training of safety and health committees

Training of the members of the safety and health committee (SHC) from the clusters on basic occupational health and safety should be conducted for about 3 half days classroom

sessions for each trade, followed by practical inspection in the cluster and on-the-spot guidance. The classroom training should be conducted, if possible closer to the participating clusters as to allow the participation of operators costs on transportation and saving time.

The aim of the training is to introduce to the SHCs ideas on low cost practical local solutions on workplace improvements. Laws, regulations and other issues related to the local authorities could be discussed in the presence of a health official from the City council who (normally responsible for the inspection of the clusters) who could be among the trainers. A follow-up of the training should be done regularly during the on-the-spot guidance when the members of the SHC and other operators will be visited and given advice by the inspecting staff.

After this training, it is expected that SHC will start improving their work environment and work practices as well as seeking related services from their respective local authorities. Later the SHC should be responsible of transmitting the OHS knowledge to the entire operators in the clusters.

9. First aid training

It should aimed at training at least 1 first aiders from each cluster in each city. The training should involve one week of partly practice in the clusters and partly theory in classroom, including the following subjects: first aid services in the clusters; use and replenishment of first aid box contents; basic record-keeping; referral procedures, hazard identification; and emergency preparedness for fire or explosions.

10. Training and referral

The two institutions responsible for Occupational Health Services for the Informal Sector in Dar es Salaam (i.e. Department of Health, City Council and Ministry of Labour and Youth Dev.) should be responsible for organizing training programmes for personnel who shall be involved in occupational health services for the Informal Sector. It should be remembered that Health Inspectors and Factory Inspectors have adequate knowledge on occupational Health and safety on completion of their training and therefore do not need elaborate training when engaged in OHS in the Informal Sector. It could be possible to have an OH specialist for the Dar es Salaam Region to handle more complicated occupational diseases and to give advice in controversial cases. This person could be responsible for record-keeping system for all occupational diseases and injuries in that particular sector.

Tables VI and VII show a tentative distribution of core activities and of training requirements for health care staff.

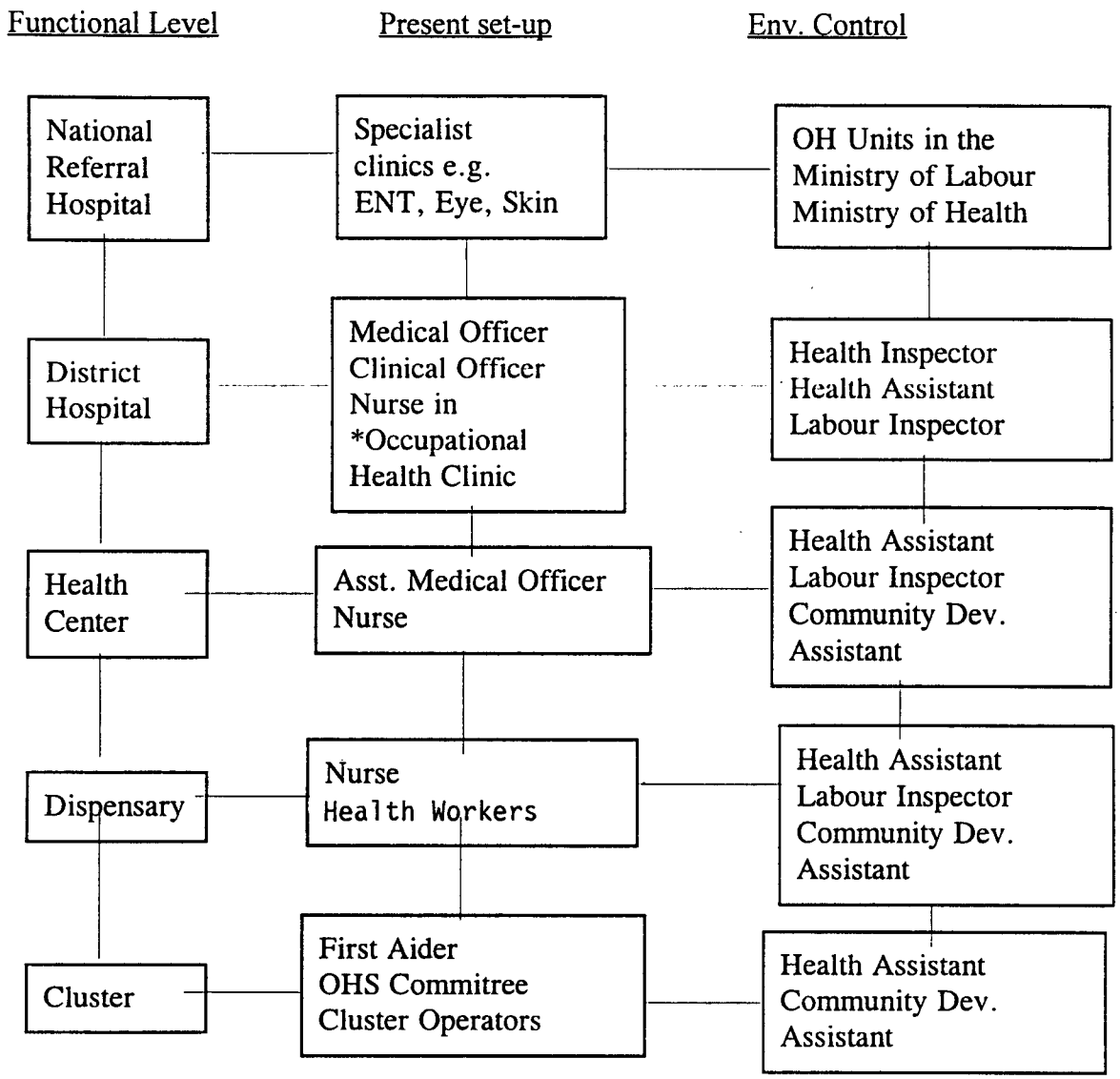
11. Advocacy: Opening channels with the CCHD

With the current economic set up which calls for "cost-sharing" between beneficiaries and the servicing institutions, clusters have to invest in their own working conditions improvements. However, due to their background social and economic problems they fail to achieve a significant level of improvement, thus need outside support. The infrastructure set up of the clusters need a serious intervention before the sector can benefit from their inputs. This intervention is supposed to come from the clusters themselves though collaboration or assistance from outside (e.g.: authorities; the City Council particularly its Health Department, NGOs, etc).

As mentioned before, the CCHD is a major player as far as sanitation services and public health education is concerned. To eliminate the concept built in operators minds that the CCHD is their enemy number one, a communication barrier between the clusters and the CCHD need to be broken. However, it would be necessary to invite a senior official from this CCHD to be part of the training team, where discussions on regulations and joint responsibilities can take place in order to assure renewed services to the clusters. Among the most requested services are: availability of waste disposal vehicles and cesspit emptying tanks provided the clusters pay for the service.

One of the main underlying causal factors which gives rise to OSH problems is that the IS operates on open land or locations not legally recognized for the purpose. The problem should be addressed through very close co-operation with other projects and activities which are locally dealing with the issue, (e.g.:City Council's programme on healthy cities).

Figure 1: Organizational diagram of urban occupational health services for the informal sector in Dar es Salaam



ref: (Riwa and Swai, 1995)

Figure 2: Structural organization for the improvement of working conditions in a cluster with SHC

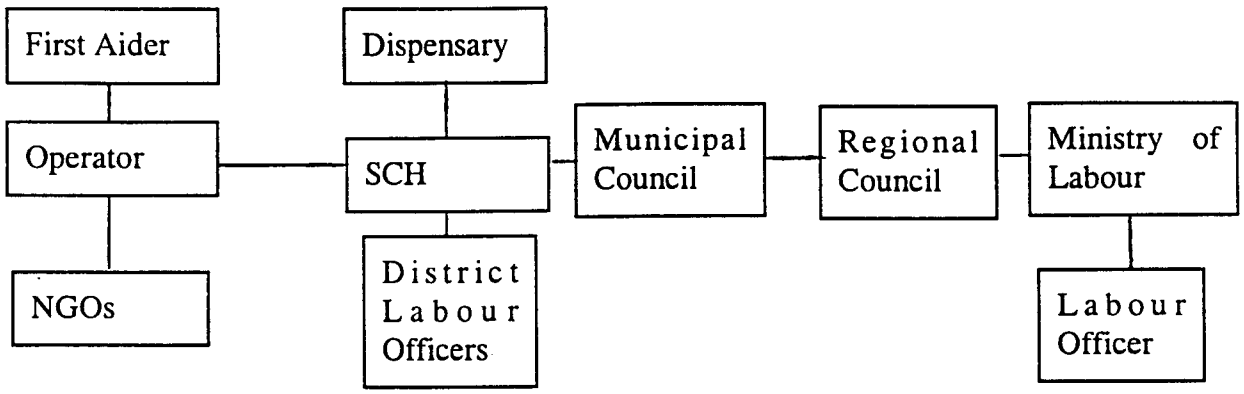


Table V

Distribution of training sessions of the informal sector operators by specific trades

Sr. No.	Session	CLUSTER	TRADE	No. of participants	No. of half days
1.	I	DASICO	Wood & metal works	12	3
2.		BUGURUNI	Wood works	6	
3.	II	MWENGE	Carvers	12	3
4.		TINGATINGA	Art painters	6	
5.	III	MWANANYA MALA	Marketing	6	3
6.		TANDALE MKT	Marketing	6	
7.	IV	TANDALE PORTERS	Food vending	6	3
8.	V	VUSHA	Fishing & marketing	6	3
9.	VI	FERRY RESTAU-RANTS	Porters	6	3
				66	18

Table VI:

Activities of Occupational Health Services.

Core Activity	Specific Activitie	Personnel Responsible	Institution
Occupational Health Care	Pre-employment medical examination	Para Medical Personnel, Doctors and Nurse (may include Lab. Assistant or Technician)	City Health Department through Dispensaries Health Centres and District Hospitals with referal to specialist clinics at Muhimbili Medical Centre
	Periodic medical examination		
	Work placement		
	Treatment of work related diseases and injuries		
	Record-keeping		
Health Promotion Programmes	Health risk Apprasial	Para Medical Personnel Doctors and Nurse (may include Lab. Assistant or Technician)	
	Screening examination (e.g. BP, Diabetes, Occ. Diseases)		
	Specific worker support activities e.g. smoking cessation stress management hypertension control		
Safety and Health of Work Environment	Training Hazard Recognition	Labour Inspector/ Factory Inspector	Ministry of Labour and Youth Development
	Surveillance of hygiene		
	Record Keeping		

Table VII

Tentative Occupational Health Services Staff: Training requirement

Staff and Facility	Training Needs
Paramedical Staff (Dispensary and Health Centre)	Basic Occupational Health concept and practices
Nursing Personnel (Dispensary and Health Centre)	Basic Occupational Health and Safety concept and practices
Medical Officers (District Hospitals)	Basic Occupational Health, concept and practices in cluding better - diagnostic skills and counceling.
Health Assistant (Ward Health Office)	Basic Occupational Health and Safety Concepts and Practice
Labour Inspectors (District Labour Office)	Basic Occupational Health and Safety Concepts and Practice

Annex 1

BASIC PRINCIPLES OF AN OCCUPATIONAL HEALTH MODEL FOR THE INFORMAL SECTOR:

1. NATIONAL POLICY: OCCUPATIONAL HEALTH/ENVIRONMENTAL HEALTH PROGRAMME FOR INFORMAL SECTOR (increase productivity/better working conditions).

2. MULTIDISCIPLINARY APPROACH TO HEALTH PROTECTION IN THE INFORMAL SECTOR (occupational medicine, nursing, traditional medicine, training, preventive medicine, first aid/emergency preparedness, occupational safety, ergonomics, etc).

3. INTEGRATED APPROACH TO HEALTH CARE INCLUDING: PRIMARY HEALTH CARE + OCCUPATIONAL HEALTH AND SAFETY + ENVIRONMENTAL HEALTH + PUBLIC HEALTH.

4. DECENTRALIZATION: OUT-REACH FOCUS OF OCCUPATIONAL HEALTH CARE DELIVERY.

5. ACTION ORIENTED TO PREVENTION.

6. EMPHASIS ON INFORMATION, EDUCATION & TRAINING.

7. PRIORITIES AND NEEDS DEFINED AT LOCAL LEVEL WITH COMMUNITY PARTICIPATION (feed-back among concerned groups; pro-active & response-oriented approach).

8. PROBLEM SOLVING APPROACH: FOCUSED ON SPECIFIC NEEDS.

9. BUILD UP OF LOCAL TECHNICAL CAPABILITY: UTILIZATION OF HUMAN AND MATERIAL LOCAL RESOURCES. (appropriate technology, training & education, low-cost local solutions).

10. SUSTAINABILITY OF HEALTH CARE SERVICES (effectiveness, continuity, economic feasibility).

11. SELF-EVALUATION & IMPROVEMENT

Annex 2

First aid training course for operators: First week (classroom lessons) 30.10.95-3.11.95

DAY	TIME	ACTIVITY
1	09.00-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m.	Registration and opening ceremony Tea Introduction to first aid Priorities and systematic approach
2	09.00-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m.	Patient assessment Tea Artificial respiration Cardiopulmonary resuscitation I
3	09.00-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m.	Cardiopulmonary resuscitation II Tea The unconscious patient Bleeding and wounds
4	09.00-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m.	The head injuries Tea Burns Fractures and dislocations
5	09.00-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m. 12.30-01.30 p.m.	Electrocutions Tea Insect stings and snakebites Other medical emergencies including poisoning Practical — lifting, bandaging

Continuation.....

First aid training course for operators
2nd week:(Field visits in the clusters), 6-10 November 1995.

This part concerns the practical week with on-the-spot guidance for first aid trainees.
The external collaborator with a field instructor from the Red Cross Society visited the clusters to do the following:

1. Present the first aid box to the trainee and the leader.
2. Discuss first aid services for the clusters.
3. Introduce the trainees on the use of the contents of the first aid box and how to replenish the contents.
4. Importance of record-keeping including confidentiality.
5. Referral procedure to the City Health Services. Use of prescribed forms will be taught.
6. Hazards identification: accidents, hazards including possible exposures that may give rise to disease condition in each cluster will be discussed.
7. Emergency preparedness: the trainees will be instructed on how to handle an emergency in the cluster environment and possible help that might be needed including transport to the nearest health facility.

Annex 3

Occupational health course for nurses. 13-17 November 1995

DAY	TIME	SUBJECT
Monday 13 November 1995	09.00-9.30 a.m. 09.30-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m. 12.30-02.00 p.m. 02.00-03.30 p.m.	Registration Opening Tea Man and his work Occupational history taking Lunch Visit to clusters
Tuesday 14 November 1995	09.00-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m. 12.30-02.00 p.m. 02.00-03.30 p.m	Routine medical examinations Tea Fitness to work Principles of occupational diseases Lunch Visit to clusters
Wednesday 15 November 1995	09.00-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m. 12.30-02.00 p.m. 02.00-03.30 p.m	Physical hazards Tea Chemical hazards Biological hazards Lunch Visit to clusters
Thursday 16 November 1995	09.00-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m. 12.30-02.00 p.m. 02.00-03.30 p.m	Workplace assessment Tea Health promotion at the workplace Accident prevention Lunch Visit to MMC Physiology Lab. and ENT Diagnostic Lab.
Friday 17 November 1995	09.00-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m. 12.30-02.00 p.m. 02.00-02.30 p.m 02.30-03.00 p.m.	Occ. health service rules Tea Functions of an OH nurse Record-keeping Lunch Course evaluation Closing ceremony

Occupational health course for clinical officers. 20-24 November 1995

DAY	TIME	SUBJECT
Monday 20 November 1995	09.00-9.30 a.m. 09.30-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m. 12.30-02.00 p.m. 02.00-03.30 p.m.	Registration Opening ceremony Tea Man and his work Occupational history taking Lunch Visit to clusters
Tuesday 21 November 1995	09.00-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m. 12.30-02.00 p.m. 02.00-03.30 p.m	Routine medical examinations Tea Fitness to work Principles of occupational diseases Lunch Visit to clusters
Wednesday 22 November 1995	09.00-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m. 12.30-02.00 p.m. 02.00-03.30 p.m	Occupational diseases I Tea Occupational diseases II Occupational diseases III Lunch Group discussion
Thursday 23 November 1995	09.00-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m. 12.30-02.00 p.m. 02.00-03.30 p.m	Working environment Tea Occupational accidents Health promotion at work Lunch Visit to MMC Physiology Lab. and ENT Diagnostic Lab.
Friday 24 November 1995	09.00-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m. 12.30-02.00 p.m. 02.00-02.30 p.m 02.30-03.00 p.m.	Workman compensation law Tea Occ. health service rules Health records Lunch Course evaluation Closing ceremony

Occupational health course for medical officers, 27 November-1 December 1995

DAY	TIME	SUBJECT
Monday 27 November 1995	09.00-9.30 a.m. 09.30-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m. 12.30-02.00 p.m. 02.00-03.30 p.m.	Registration Opening ceremony Tea Work and health Occupational history taking Lunch Visit to clusters
Tuesday 28 November 1995	09.00-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m. 12.30-02.00 p.m. 02.00-03.30 p.m	Routine medical examinations Tea Fitness to work Principles of occupational diseases Lunch Visit to Gov. Chemist Lab.
Wednesday 29 November 1995	09.00-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m. 12.30-02.00 p.m. 02.00-03.30 p.m	Occupational diseases by systems Tea Occupational diseases by systems Biological monitoring Lunch Group discussion
Thursday 30 November 1995	09.00-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m. 12.30-02.00 p.m. 02.00-03.30 p.m	Workplace assessment Tea Occupational accidents Workmen compensation Lunch Visit to MMC Physiology Lab. and ENT Diagnostic Lab.
Friday 1 December 1995	09.00-10.00 a.m. 10.00-10.30 a.m. 10.30-11.30 a.m. 11.30-12.30 p.m. 12.30-02.00 p.m. 02.00-02.30 p.m 02.30-03.00 p.m.	Health records Tea Function of Occ. Health Serv. Primary health approach to occ. health Lunch Course evaluation Closing ceremony

Annex 4

Training course for members of the safety and health committees

Day 1

TIME	TOPIC
08.30-09.00	Registration
09.00-09.30	Introduction
09.30-10.00	Occupational hazards
10.00-10.30	Health services
10.30-11.00	**Tea Break**
11.00-11.30	Safety of work tools
11.30-12.00	Lighting
12.00-01.00	Discussion and checklist development

Day 2

TIME	TOPIC
08.30-09.00	Discussion
09.00-09.30	Storage and housekeeping
09.30-10.00	Welfare facilities
10.00-10.30	Premises
10.30-11.00	**Tea Break**
11.00-11.30	Workstation design
11.30-12.00	Productivity/lifting of heavy loads
12.00-01.00	Discussion and checklist development

Training course for members of the safety and health committees

Day 3

TIME	TOPIC
08.30-09.00	Discussion
09.00-09.30	Waste collection and disposal
09.30-10.00	Work organization
10.00-10.30	Personal hygiene
10.30-11.00	**Tea Break**
11.00-11.30	Control of hazardous substances
11.30-12.00	Improvement strategies
12.00-01.00	Discussion and checklist development

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